

What is claimed is:

1. A control apparatus for a hybrid vehicle, the hybrid vehicle comprising a motor and an engine, which is capable of executing a partial cylinder deactivation operation by deactivating a part of cylinders of the engine, as a power source for driving the hybrid vehicle by transmitting power of at least one of the motor and the engine to the wheels, wherein

when the output required for the power source is larger than the output of the engine under the partial cylinder deactivation operation, and is smaller than the total of the output of the engine under partial cylinder deactivation operation and the output of the motor, which is adjustable for assisting the engine output,

the control apparatus of the hybrid vehicle operates the engine under the partial cylinder deactivation operation and controls the motor output for compensating the difference between the total required output of the power source and the engine output under the partial cylinder deactivation operation.

2. A control apparatus for a hybrid vehicle according to claim 1, wherein the control apparatus determines whether it is possible for the engine to be operated under the partial cylinder deactivation operation based on at least one of the parameters comprising the temperature of said motor, the state of charge of a power storage unit which supplies energy to said motor, the temperature of said power storage unit, and the temperature of electrical equipment connected to said power storage unit.

3. A control apparatus for a hybrid vehicle according to claim 1, wherein when the control apparatus of the hybrid vehicle adjusts the output of the vehicle by controlling the

motor output, the output of said engine under partial cylinder deactivation operation is maintained at an output to give the lowest net fuel consumption.

4. A control apparatus for a hybrid vehicle according to claim 1, wherein when the total output of the power source is adjusted by controlling the motor output, the motor output is controlled based on at least one of the parameters of, the rating of the motor, the temperature of the motor, and the state of charge of said power storage unit, or the temperature of said power storage unit.

5. A control apparatus for a hybrid vehicle according to claim 1, wherein when the operating state of said engine is switched between the state under the partial cylinder deactivation operation and the state under all cylinders operation in which all the cylinders of the engine are operating, a difference between the engine output under all cylinders operation and the engine output under partial cylinder deactivation operation is adjusted by controlling the degree of opening of an electronic control throttle.

6. A control apparatus for a hybrid vehicle according to claim 1, wherein the total output of the engine and the motor is controlled so as to maintain at an identical output when the operating conditions such as the required output are maintained at the same value.